## Abstract of the Invention

Connection objects or other such data structures facilitate establishing and configuring connections between objects that model components in a process control system. A first set of data structures (e.g., the object connection type structures) identify valid types for component-to-component pairings and the respective roles of each component in the pairing (e.g., parent or child, source or sink). A second set of data structures (e.g., the parameter connection type structures) supply similar information for parameter-to-parameter connections. Together, these data structures can be used, for example, to validate component-to-component connections suggested by the user and to automatically configure parameter-to-parameter connections. Actual connections, both at the component or parameter level, are reflected using parameter overrides within the parameterized object model -- with which the connection objects are constructed.